



# **STIC Search Report**

## **Biotech-Chem Library**

**STIC Database Tracking Number: 132504**

**TO: Hector Reyes**  
**Location: REM-4A68&4C70**  
**Art Unit: 1625**  
**Thursday, September 16, 2004**

**Case Serial Number: 10/674896**

**From: Mary Jane Ruhl**  
**Location: Biotech-Chem Library**  
**Remsen 1-A-62**  
**Phone: 571-272-2524**

**maryjane.ruhl@uspto.gov**

### **Search Notes**

Examiner Reyes,

Here are the results for your recent search request.

Please feel free to contact me if you have any questions about these results.

Thank you for using STIC services. We appreciate the opportunity to serve you.

Sincerely,

Mary Jane Ruhl  
Technical Information Specialist  
STIC  
Remsen 1-A-62  
Ext. 22524

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FILE 'REGISTRY' ENTERED AT 14:08:45 ON 16 SEP 2004

E SALICYLIC ACID/CN

L1 1 SEA ABB=ON "SALICYLIC ACID"/CN  
L2 1 SEA ABB=ON CARBON DIOXIDE/CN  
L3 1 SEA ABB=ON METHANESULFONIC ACID/CN  
L4 1 SEA ABB=ON 1-TETRADECENE/CN  
L5 1 SEA ABB=ON 1-HEXADECENE/CN  
L6 1 SEA ABB=ON 1-OCTADECENE/CN  
L7 1 SEA ABB=ON 1-TETRACOSENE/CN  
L8 1 SEA ABB=ON 1-EICOSENE/CN  
L9 1 SEA ABB=ON 1-DOCOSENE/CN

FILE 'HCAPLUS' ENTERED AT 14:10:08 ON 16 SEP 2004

L10 761 SEA ABB=ON ?LUBRICANT? (W) ?DETERGENT?  
L11 2 SEA ABB=ON L10 AND ?ALKALINE? (W) ?EARTH? (W) ?METAL? (W) ?SALICYLAT?  
L12 2 SEA ABB=ON L10 AND ?ALKALINE? (W) ?EARTH? (L) ?METAL? (W) ?SALICYLAT?  
L13 45 SEA ABB=ON L10 AND (L1 OR ?SALICYLIC? (W) ?ACID? OR A (W) ?O  
LEFIN? OR L4 OR L5 OR L6 OR L7 OR L8 OR L9 OR 1 (W) (?TETRADECENE  
? OR ?HEXADECENE? OR ?OCTADECENE? OR ?EICOSENE? OR ?DOCOSENE?  
OR ?TETRACOSENE?))  
L14 16 SEA ABB=ON L13 AND (?ALKYLAT? OR ?NEUTRALIZ? OR ?OVERBAS?)  
L15 6 SEA ABB=ON L14 AND (OIL? (W) ?SOLUBL? OR ?CARBONAT? (3A) ?LIME?)  
L16 3 SEA ABB=ON L14 AND ((L2 OR CO2) AND (?PROMOT? OR SURFACT? OR  
?FILTER? OR ?REMOV? OR ?DISTIL?))  
L17 1 SEA ABB=ON L14 AND (L3 OR ?METHANESULFONIC? (W) ?ACID?)  
L18 1 SEA ABB=ON L13 AND ?ALKALIN? (W) ?EARTH? (W) (?CARBONAT? OR  
?SULFONAT? OR ?PHENAT? OR ?CARBOXYLAT?)  
L19 16 SEA ABB=ON L14 OR L15 OR L16 OR L17 OR L18

FILE 'COMPENDEX, APOLLIT, WPIDS, JICST-EPLUS, JAPIO, EMA, PLASPEC, RAPRA,  
PASCAL, BABS' ENTERED AT 14:19:11 ON 16 SEP 2004

L20 3 SEA ABB=ON L19  
L21 3 DUP REMOV L20 (0 DUPLICATES REMOVED) *3 cite from d.b. cluster*

FILE 'HCAPLUS' ENTERED AT 14:36:41 ON 16 SEP 2004

L22 1 SEA ABB=ON L19 AND ?TEMP?  
L23 16 SEA ABB=ON L19 OR L22 *16 cite from CA Plus*

*Victor, if there's a different focus you would  
prefer, please let me know.*

*Thank you,*

*Mary Jane*



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L1 1 SEA FILE=REGISTRY ABB=ON "SALICYLIC ACID"/CN  
 L2 1 SEA FILE=REGISTRY ABB=ON CARBON DIOXIDE/CN  
 L3 1 SEA FILE=REGISTRY ABB=ON METHANESULFONIC ACID/CN  
 L4 1 SEA FILE=REGISTRY ABB=ON 1-TETRADECENE/CN  
 L5 1 SEA FILE=REGISTRY ABB=ON 1-HEXADECENE/CN  
 L6 1 SEA FILE=REGISTRY ABB=ON 1-OCTADECENE/CN  
 L7 1 SEA FILE=REGISTRY ABB=ON 1-TETRACOSENE/CN  
 L8 1 SEA FILE=REGISTRY ABB=ON 1-EICOSENE/CN  
 L9 1 SEA FILE=REGISTRY ABB=ON 1-DOCOSENE/CN  
 L10 761 SEA FILE=HCAPLUS ABB=ON ?LUBRICANT? (W)?DETERGENT?  
 L13 45 SEA FILE=HCAPLUS ABB=ON L10 AND (L1 OR ?SALICYLIC? (W)?ACID?  
 OR A(W)?OLEFIN? OR L4 OR L5 OR L6 OR L7 OR L8 OR L9 OR  
 1(W)?TETRADECENE? OR ?HEXADECENE? OR ?OCTADECENE? OR ?EICOSENE  
 ? OR ?DOCOSENE? OR ?TETRACOSENE?))  
 L14 16 SEA FILE=HCAPLUS ABB=ON L13 AND (?ALKYLAT? OR ?NEUTRALIZ? OR  
 ?OVERBAS?)  
 L15 6 SEA FILE=HCAPLUS ABB=ON L14 AND (OIL?(W)?SOLUBL? OR ?CARBONAT?  
 (3A)?LIME?)  
 L16 3 SEA FILE=HCAPLUS ABB=ON L14 AND ((L2 OR CO2) AND (?PROMOT? OR  
 SURFACT? OR ?FILTER? OR ?REMOV? OR ?DISTIL?))  
 L17 1 SEA FILE=HCAPLUS ABB=ON L14 AND (L3 OR ?METHANESULFONIC? (W)?AC  
 ID?)  
 L18 1 SEA FILE=HCAPLUS ABB=ON L13 AND ?ALKALIN? (W)?EARTH? (W) (?CARBON  
 AT? OR ?SULFONAT? OR ?PHENAT? OR ?CARBOXYLAT?)  
 L19 16 SEA FILE=HCAPLUS ABB=ON L14 OR L15 OR L16 OR L17 OR L18  
 L22 1 SEA FILE=HCAPLUS ABB=ON L19 AND ?TEMP?  
 L23 16 SEA FILE=HCAPLUS ABB=ON L19 OR L22

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L23 ANSWER 1 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2004:414680 HCAPLUS

DOCUMENT NUMBER: 140:409406

TITLE: Method for producing lubricant  
detergents

INVENTOR(S): Muir, Ronald J.

PATENT ASSIGNEE(S): Can.

SOURCE: U.S. Pat. Appl. Publ., 8 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004097750	A1	20040520	US 2003-674896	20030929
WO 2004041767	A1	20040521	WO 2003-US33461	20031015
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

## PRIORITY APPLN. INFO.:

US 2002-422493P

P 20021031

US 2003-674896

A 20030929

AB The invention is a process for producing alkaline earth metal salicylates for use as **lubricant detergents** and to compns. prepared by the process. The process comprises two steps. Step 1 is the **alkylation of salicylic acid** is conducted using C 14 or greater linear  $\alpha$  -olefins to produce alkyl **salicylic acids** in com. acceptable yields. The **alkylation** conditions produce predominately mono-substituted para alkyl **salicylic acids** that are **oil soluble** Step 2 is the **oil soluble acid** is subsequently **neutralized** and **overbased** by **carbonation of lime** using CO<sub>2</sub> in the presence of a **promoter** and a **surfactant**. The reaction mixture after **overbasing** is **filtered** and solvents are **removed** by **distillation** Alternatively, alkyl **salicylic acid** can be reacted with a previously **overbased alkaline earth sulfonate**, e.g., calcium sulfonate, to produce alkaline earth salicylate salts comprising varying percentages of dispersed **alkaline earth carbonate** salts. In this method, no filtration of the end product is required, and, thus, it is com. preferred.

L23 ANSWER 2 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:671985 HCAPLUS

DOCUMENT NUMBER: 137:203769

TITLE: **Oil-soluble overbased**

salicylate-phenate lubricating oil detergents for trunk-piston marine diesel engines

INVENTOR(S): Hammond, Stephen; Price, Mark Andrew; Skinner, Philip

PATENT ASSIGNEE(S): Infineum International Limited, UK

SOURCE: Eur. Pat. Appl., 9 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1236791	A1	20020904	EP 2001-301406	20010216
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
EP 1236792	A1	20020904	EP 2002-75506	20020128
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2003004069	A1	20030102	US 2002-62356	20020131
US 6642190	B2	20031104		
CN 1370816	A	20020925	CN 2002-104750	20020210
JP 2002275487	A2	20020925	JP 2002-38570	20020215
PRIORITY APPLN. INFO.:			EP 2001-301406	A 20010216

AB An **oil-soluble overbased** salicylate-phenate

lubricating oil detergent, especially suitable for trunk piston marine diesel engines burning high-sulfur diesel fuels, comprises an **overbased** complex in which the basic material of the detergent is stabilized by both salicylate and phenate surfactants, in which the mass content of the salicylate, as a percentage of the total surfactant mass, is >50%, provided that, when the mass content is <60%, and the total base number (TBN)-mass percent surfactant ratio of the detergent is <10:1. The total surfactant mass is >65%, preferably >75%. The detergent is

preferably an **overbased** alkaline earth metal salt, especially Mg or Ca, with TBN >300 (preferably 300-400) and kinematic viscosity at 100° of <1000 mm<sup>2</sup>/s.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L23 ANSWER 3 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2000:278262 HCAPLUS

DOCUMENT NUMBER: 133:225278

TITLE: Effect of aging reaction on the colloidal structures and antiwear property of **overbased** calcium alkyl-salicylate

AUTHOR(S): Liu, Yi-nong; Fu, Xing-guo; Liu, Wei-min

CORPORATE SOURCE: Petro-chemical Research Institute, Lanzhou Petroleum Processing & Chemical Complex, China National Petroleum Company, Lanzhou, 730060, Peop. Rep. China

SOURCE: Mocaxue Xuebao (2000), 20(1), 26-29

CODEN: MAXUE7; ISSN: 1004-0595

PUBLISHER: Kexue Chubanshe

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

AB The aging process of **overbased** calcium alkyl salicylate is studied with FTIR, freeze-etching electron microscopic observation (FE-EM) and test of calcium distribution measurement. The results show that, when **overbased** calcium alkyl salicylate samples are subjected to aging reaction, the size of colloidal particles in samples decreases, the relative content of calcium hydroxide in colloidal particles increases, the viscosity of samples decreases and the total basicity number of samples increases. The detergency and antiwear properties of aged samples are better than that of non-aged ones. Meanwhile, the aging efficacy of **overbased** calcium alkyl salicylate becomes worse if water, methanol and residue of calcium hydroxide are **removed** from the reaction system. The primary aging mechanism is deduced according to the testing results as well.

L23 ANSWER 4 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1996:646419 HCAPLUS

DOCUMENT NUMBER: 125:280493

TITLE: **Overbased** lithium salt lubricant additives and production thereof

INVENTOR(S): Loop, John G.; Watson, Elizabeth D.; Valcho, Joseph J.; Perozzi, Edmund F.; Passut, Charles A.

PATENT ASSIGNEE(S): Ethyl Corporation, USA

SOURCE: Eur. Pat. Appl., 16 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 731159	A2	19960911	EP 1996-301587	19960307
EP 731159	A3	19970521		

R: BE, FR, GB

PRIORITY APPLN. INFO.: US 1995-399783 19950307  
US 1995-400156 19950307

AB A lubricant additive concentrate comprises a base oil of lubricating viscosity, and (a) at least one non-lithium **oil-soluble overbased** alkali or alkaline earth metal-containing **overbased**

detergent and (b) at least one **oil-soluble overbased** lithium salt detergent.

L23 ANSWER 5 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN  
 ACCESSION NUMBER: 1995:242938 HCAPLUS  
 DOCUMENT NUMBER: 122:34616  
 TITLE: **Overbased lubricant detergents** -- a comparative study of conventional technology and a new class of product  
 AUTHOR(S): O'Connor, S.P.; Crawford, J.; Cane, C.  
 CORPORATE SOURCE: BP Chemicals, Hull, UK  
 SOURCE: Mechanical Engineering (Marcel Dekker) (1993), 80(Engine Oils and Automotive Lubrication), 212-30  
 CODEN: MCLEEF; ISSN: 0899-3858  
 DOCUMENT TYPE: Journal; General Review  
 LANGUAGE: English  
 AB A review, with 7 refs., of chemical of **overbased lubricant detergents** and their properties and performance in bench and engine tests.

L23 ANSWER 6 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN  
 ACCESSION NUMBER: 1994:683255 HCAPLUS  
 DOCUMENT NUMBER: 121:283255  
 TITLE: **Overbased lubricant detergents** - a comparative study  
 AUTHOR(S): O'Connor, S.P.; Crawford, J.; Cane, C.  
 CORPORATE SOURCE: BP Chemicals, Hull, UK  
 SOURCE: Lubrication Science (1994), 6(4), 297-325  
 CODEN: LUSCEN; ISSN: 0954-0075  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB A comparison is made of traditional and new types of **overbased detergents** for automotive and marine lubricants. New products exhibit significant improvements in properties and performance over conventional detergents.

L23 ANSWER 7 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN  
 ACCESSION NUMBER: 1994:249139 HCAPLUS  
 DOCUMENT NUMBER: 120:249139  
 TITLE: Process for producing **neutralized sulfurized alkylphenate lubricant detergent additive**  
 INVENTOR(S): Esche, Carl K., Jr.; Anderson, Gregory P.; Sanderson, John R.  
 PATENT ASSIGNEE(S): Texaco Inc., USA  
 SOURCE: U.S., 5 pp.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5292443	A	19940308	US 1992-933621	19920821
PRIORITY APPLN. INFO.:			US 1992-933621	19920821

AB A nondiluent oil process for producing a fluid sulfurized/**neutralized** phenate comprising: a) oligomerizing a (C6-C20) olefin; b) **alkylating** the oligomerized olefin to produce a oligomerized (C6-C20) alkyl phenol; c) **neutralizing** and

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sulfurizing the oligomerized (C6-C20) alkyl phenol to produce a fluid **neutralized**/sulfurized phenate product; and d) recovering the fluid phenate product.

L23 ANSWER 8 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1993:542796 HCAPLUS  
DOCUMENT NUMBER: 119:142796  
TITLE: Process for **alkylating** salicylates with polyalphaolefin  
INVENTOR(S): Senaratne, K. Pushpananda A.; Bynum, Patrick S.  
PATENT ASSIGNEE(S): Ethyl Corp., USA  
SOURCE: U.S., 4 pp.  
CODEN: USXXAM  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5225588	A	19930706	US 1992-829712	19920203
PRIORITY APPLN. INFO.:			US 1992-829712	19920203

AB Hydroxybenzoates such as methylsalicylates are **alkylated** by reacting a hydroxybenzoate with a poly- $\alpha$  -olefin in the presence of a catalytic amount of SnCl<sub>4</sub>. The reaction is carried out in a halocarbon solvent at 20-30°. The **alkylated** salicylates are excellent diesel lubricant detergents.

L23 ANSWER 9 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1991:27094 HCAPLUS  
DOCUMENT NUMBER: 114:27094  
TITLE: Process for a borated detergent additive  
INVENTOR(S): Schlicht, Raymond C.; Powers, William J., III  
PATENT ASSIGNEE(S): Texaco Inc., USA  
SOURCE: U.S., 5 pp.  
CODEN: USXXAM  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4965004	A	19901023	US 1989-342136	19890421
PRIORITY APPLN. INFO.:			US 1989-342136	19890421

AB A process for preparing a borated, **overbased oil-soluble** metal detergent additive for lubricants comprises (a) borating an **overbased** metal salt in the presence of a protic solvent and a hydrocarbon solvent and reacting at 15-100° for 0.25-5.0 h, (b) distilling the borated metal salt mixture to remove protic solvent and water, (c) cooling the distilled borated mixture, and (d) stripping the cooled filtrate and recovering the borated metal detergent additive.

L23 ANSWER 10 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1987:410071 HCAPLUS  
DOCUMENT NUMBER: 107:10071  
TITLE: Synthesis and effectiveness of alkylphenol sulfamides  
AUTHOR(S): Sadykhov, K. I.; Velieva, S. M.  
CORPORATE SOURCE: IKhP, Baku, USSR  
SOURCE: Doklady - Akademiya Nauk Azerbaidzhanskoi SSR (1987),

42(10), 43-5

CODEN: DAZRA7; ISSN: 0002-3078

DOCUMENT TYPE:

Journal

LANGUAGE:

Russian

AB C12-18 and C20-28 alkylphenolsulfamides (I) are effective lubricating oil detergents-dispersants whose characteristics are better than those of the PMSya com. additive. I is obtained by the **alkylation** of PhOH with C12-18  $\alpha$ -**olefins** or C20-28 ethylene oligomer, sulfonation with oleum, and treatment with aqueous urea.

L23 ANSWER 11 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1983:200951 HCAPLUS

DOCUMENT NUMBER: 98:200951

TITLE: Susceptibility of oils to detergent additives

AUTHOR(S): Borovaya, M. S.; Morozova, I. A.; Lepeshkina, Yu. S.; Krivenkova, B. D.

CORPORATE SOURCE: VNIINP, USSR

SOURCE: Khimiya i Tekhnologiya Topliv i Masel (1983), (4), 33-4

CODEN: KTPMAG; ISSN: 0023-1169

DOCUMENT TYPE:

Journal

LANGUAGE:

Russian

AB The susceptibility was tested of 6 Soviet base lubricating oils with moderately **overbased** Ca sulfonates, Ca alkylsalicylates, and sulfurized Ca alkylphenates. All oils derived from high-S crudes had better susceptibility (as judged by the formation of sediment and viscosity change) to these detergents than those derived from low-S oils. Generally, Ca sulfonates were more effective with more oil types than the other 2 kinds of detergents.

L23 ANSWER 12 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1979:89755 HCAPLUS

DOCUMENT NUMBER: 90:89755

TITLE: Production and study of synthetic superalkaline calcium sulfonates

AUTHOR(S): Sadykov, K. I.; Agaev, A. N.; Magerramova, Z. A.

CORPORATE SOURCE: Inst. Khim. Prasadok, Baku, USSR

SOURCE: Azerbaidzhanskii Khimicheskii Zhurnal (1978), (3), 42-4

CODEN: AZKZAU; ISSN: 0005-2531

DOCUMENT TYPE:

Journal

LANGUAGE:

Russian

AB The sulfonates were prepared by **alkylation** of alkylarom. hydrocarbons from naphthalene and kerosine-gas oil fractions with **alpha.-olefins**, then sulfonation with oleum, **neutralization** with Ca(OH)<sub>2</sub>, and alkaline treatment with powdered Ca(OH)<sub>2</sub> + CO<sub>2</sub> of the sulfonates dissolved in a PhMe-MeOH mixture. The product had detergent-dispersing properties, 300-400 mg KOH/g alkalinity, and 52-8% ash.

L23 ANSWER 13 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1978:513760 HCAPLUS

DOCUMENT NUMBER: 89:113760

TITLE: Mannich base reaction products useful as liquid hydrocarbon additives

INVENTOR(S): Stover, William Harold

PATENT ASSIGNEE(S): Exxon Research and Engineering Co., USA

SOURCE: U.S., 8 pp.

CODEN: USXXAM

DOCUMENT TYPE:

Patent

LANGUAGE:

English



FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4025316	A	19770524	US 1974-521282	19741106
PRIORITY APPLN. INFO.:			US 1974-521282	19741106
AB Mannich bases, prepared from alkylphenols, diamines, and paraformaldehyde [108-95-2] so as to contain benzoxazine derivs. are detergents and antiscuff additives for lubricating oils for 2-stroke-cycle engines.				

L23 ANSWER 14 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1966:489784 HCAPLUS  
DOCUMENT NUMBER: 65:89784  
ORIGINAL REFERENCE NO.: 65:16767b-e  
TITLE: Lubricant additives  
INVENTOR(S): Allen, John W.  
PATENT ASSIGNEE(S): Lubrizol Corp.  
SOURCE: 6 pp.  
DOCUMENT TYPE: Patent  
LANGUAGE: Unavailable  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3267033		19660816	US	19630415
AB The title products are composed of 1-3 parts by weight of an oil-soluble fatty acid having preferably 16-24 C atoms and 1-3 parts by weight of a tertiary aliphatic primary amine salt of a partially esterified phosphoric acid in which the amine and ester components contain preferably 4-30 and 8-24 C atoms, resp. <del>The amine salts are prepared, for example, as follows: to 6 moles of a fatty alc. having an average of 13 C atoms and obtained by hydrogenating coconut oil are added 2 moles P2O5 at 50-80° during 2.5 hrs., the mixture heated 3 hrs. at 80°, and filtered. The filtrate contains the partially esterified phosphoric acid which has a P content of 8.5% and an acid number of 216 (phenolphthalein indicator). To 518 g. (2 acid equivs.) of the ester is added at 35-60° a stoichiometrically equivalent amount of a com. tertiary alkyl primary amine mixture having 11-14 C atoms in the alkyl group and an average equivalent weight of 191 based on N. The resulting mixture is agitated 30 min. The product is the salt of the amine and ester and has a P and N content of 4.7 and 3.1%, resp. Similarly prepared by varying concns. and reactants were other amine salts. The compns. have desirable frictional characteristics and are useful as additives in lubricating compns. Mineral oil, because of low cost, is the preferred lubricating oil used with the above additives. Other combinations which improve the properties of the oil consist of a mixture of the previously mentioned compds. and a hydrocarbon polysulfide and (or) a <u>neutralized product of an amine and an acid formed by reaction of a hydroxyalkyl ester of a phosphorodithioic acid with P2O5.</u> Small amts. of a Me ketone are also helpful.</del>				

L23 ANSWER 15 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1963:80570 HCAPLUS  
DOCUMENT NUMBER: 58:80570  
ORIGINAL REFERENCE NO.: 58:13699c-d  
TITLE: Salts of alkylsalicylic acids  
INVENTOR(S): Dmitrieva, N. A.; Monastyrskii, V. N.; Krasnyanskaya, G. G.

SOURCE From: Byul. Izobret. 1962, No. 22, 36..  
DOCUMENT TYPE: Patent  
LANGUAGE: Unavailable  
PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	SU 151751		19621115	SU	19610603
AB	The title compds. are prepared by carboxylation of alkylphenols with subsequent treatment of the <b>alkylsalicylic acid</b> formed with metal hydroxides. To obtain efficient additives for lubricating oils, exhibiting detergent and <b>neutralizing</b> action, alkylphenols are used containing 16-18 C atoms in the alkyl radical and alkaline-earth metal hydroxides. High-ash-content additives containing a large excess of metal (over the stoichiometrically calculated amount) are prepared by treating the alkylsalicylate with alkaline-earth metal hydroxides in a current of excess CO <sub>2</sub> .				

L23 ANSWER 16 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN  
ACCESSION NUMBER: 1958:118991 HCAPLUS  
DOCUMENT NUMBER: 52:118991  
ORIGINAL REFERENCE NO.: 52:21049a-d  
TITLE: Lubricating-oil compositions  
INVENTOR(S): Hughes, John; Garner, Philip J.  
PATENT ASSIGNEE(S): "Shell" Research Ltd.  
DOCUMENT TYPE: Patent  
LANGUAGE: Unavailable  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	GB 797452		19580702	GB	
AB	Lubricating oils containing 0.1-5% of an <b>oil-soluble</b> salt derived from a partially acylated aliphatic di- or polyamine (I) and an aromatic acid (II), have improved high- <b>temperature</b> stability and <b>detergency</b> and spread readily on metals and on water. Suitable I include <u>NH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub></u> , 1,2-diaminopropane, 1,8-diaminooctane, and diethylenetriamine. The acyl group in I is preferably derived from naphthenic acid. II, which is the salt-forming acid, may be diisopropylsalicylic, benzenesulfonic, or "Kerex" sulfonic acid, derived from kerosine. Thus, an acylated I was prepared by reaction of 15 g. naphthenic acid with 10.9 g. ethylenediamine. Ten g. of the product was <b>neutralized</b> with HCl in an aqueous alc. solution and shaken with 43 g. 13.45% aqueous Na Kerex sulfonate solution. The mixture was extracted with petr. ether, dried by azeotropic distillation, filtered to remove NaCl, and evaporated to give 14.6 g. with a N content of 5.2%. Spreading pressure in dynes/sq. cm. on steel of an untreated oil was 7.8, but with 0.4% of the above additive it was 21.				

=&gt; d que stat l21

L1 1 SEA FILE=REGISTRY ABB=ON "SALICYLIC ACID"/CN  
 L2 1 SEA FILE=REGISTRY ABB=ON CARBON DIOXIDE/CN  
 L3 1 SEA FILE=REGISTRY ABB=ON METHANESULFONIC ACID/CN  
 L4 1 SEA FILE=REGISTRY ABB=ON 1-TETRADECENE/CN  
 L5 1 SEA FILE=REGISTRY ABB=ON 1-HEXADECENE/CN  
 L6 1 SEA FILE=REGISTRY ABB=ON 1-OCTADECENE/CN  
 L7 1 SEA FILE=REGISTRY ABB=ON 1-TETRACOSENE/CN  
 L8 1 SEA FILE=REGISTRY ABB=ON 1-EICOSENE/CN  
 L9 1 SEA FILE=REGISTRY ABB=ON 1-DOCOSENE/CN  
 L10 761 SEA FILE=HCAPLUS ABB=ON ?LUBRICANT? (W) ?DETERGENT?  
 L13 45 SEA FILE=HCAPLUS ABB=ON L10 AND (L1 OR ?SALICYLIC? (W) ?ACID?  
 OR A(W) ?OLEFIN? OR L4 OR L5 OR L6 OR L7 OR L8 OR L9 OR  
 1(W) (?TETRADECENE? OR ?HEXADECENE? OR ?OCTADECENE? OR ?EICOSENE  
 ? OR ?DOCOSENE? OR ?TETRACOSENE?))  
 L14 16 SEA FILE=HCAPLUS ABB=ON L13 AND (?ALKYLAT? OR ?NEUTRALIZ? OR  
 ?OVERBAS?)  
 L15 6 SEA FILE=HCAPLUS ABB=ON L14 AND (OIL? (W) ?SOLUBL? OR ?CARBONAT?  
 (3A) ?LIME?)  
 L16 3 SEA FILE=HCAPLUS ABB=ON L14 AND ((L2 OR CO2) AND (?PROMOT? OR  
 SURFACT? OR ?FILTER? OR ?REMOV? OR ?DISTIL?))  
 L17 1 SEA FILE=HCAPLUS ABB=ON L14 AND (L3 OR ?METHANESULFONIC? (W) ?AC  
 ID?)  
 L18 1 SEA FILE=HCAPLUS ABB=ON L13 AND ?ALKALIN? (W) ?EARTH? (W) (?CARBON  
 AT? OR ?SULFONAT? OR ?PHENAT? OR ?CARBOXYLAT?)  
 L19 16 SEA FILE=HCAPLUS ABB=ON L14 OR L15 OR L16 OR L17 OR L18  
 L20 3 SEA L19  
 L21 3 DUP REMOV L20 (0 DUPLICATES REMOVED)

=&gt; d ibib abs l21 1-3

L21 ANSWER 1 OF 3 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN

ACCESSION NUMBER: 2004-410683 [38] WPIDS

DOC. NO. CPI: C2004-154108

TITLE: Production of alkaline earth metal salicylates used as  
 lubricant detergents, by  
 alkylating salicylic acid  
 with linear alpha-olefin with strong  
 acid catalyst to form oil soluble  
 alkylated salicylic acid, and  
 overbasing by carbonation of  
 lime.

DERWENT CLASS: E12 H07

INVENTOR(S): MUIR, R J

PATENT ASSIGNEE(S): (MUIR-I) MUIR R J; (CROM-N) CROMPTON CORP

COUNTRY COUNT: 106

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 2004097750	A1	20040520	(200438)*		8
WO 2004041767	A1	20040521	(200438)	EN	
RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS					
LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK					
DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP					
KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PG					
PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG UZ VC					
VN YU ZA ZM ZW					

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 2004097750	A1 Provisional	US 2002-422493P	20021031
		US 2003-674896	20030929
WO 2004041767	A1	WO 2003-US33461	20031015

PRIORITY APPLN. INFO: US 2002-422493P 20021031; US  
2003-674896 20030929

AN 2004-410683 [38] WPIDS

AB US2004097750 A UPAB: 20040616

NOVELTY - Production of alkaline earth metal salicylates, comprises **alkylating salicylic acid** with linear **alpha -olefin** comprising at least 14C in the presence of strong acid catalyst to form **oil soluble alkylated salicylic acid; neutralizing alkylated salicylic acid and overbasing alkylated salicylic acid** by **carbonation of lime** using carbon dioxide in the presence of promoter and surfactant.

DETAILED DESCRIPTION - Production of alkaline earth metal salicylates, comprises **alkylating salicylic acid** with linear **alpha-olefin** comprising at least 14C in the presence of strong acid catalyst to form **oil soluble alkylated salicylic acid; neutralizing alkylated salicylic acid ; overbasing alkylated salicylic acid** by **carbonation of lime** using carbon dioxide in the presence of promoter and surfactant; filtering the product; and removing solvents by distillation.

USE - For producing alkaline earth metal salicylates (claimed) for use as **lubricant detergents** for lubrication of marine diesel engines including 4 stroke trunk piston engines and 2 stroke cross head engines.

ADVANTAGE - The method results in improved compatibility and solubility, and excellent detergency.  
Dwg.0/0

L21 ANSWER 2 OF 3 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN

ACCESSION NUMBER: 1994-082265 [10] WPIDS

DOC. NO. CPI: C1994-037638

TITLE: Non-diluent production of fluid alkyl phenate **lubricant detergent** additive - involves neutralisation and sulphurisation of an **alkylated** oligomerised olefin.

DERWENT CLASS: A97 E14 E17 H07

INVENTOR(S): ANDERSON, G P; ESCHE, C K; SANDERSON, J R

PATENT ASSIGNEE(S): (TEXC) TEXACO INC

COUNTRY COUNT: 1

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 5292443	A	19940308	(199410)*		5

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
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US 5292443

A

US 1992-933621

19920821

PRIORITY APPLN. INFO: US 1992-933621 19920821

AN 1994-082265 [10] WPIDS

AB US 5292443 A UPAB: 19940421

A non-diluent process for production of a fluid neutralised/sulphurised phenate comprises: (a) oligomerising a 6-20C olefin; (b) **alkylating** phenol with the oligomerised olefin to produce an oligomerised 6-20C alkyl phenol; (c) neutralising and sulphurising the alkyl phenol with Ca(OH)<sub>2</sub>, ethylene glycol and elemental S in the absence of an oil diluent to produce a fluid neutralised/sulphurised phenate prod.; and (d) recovering the prod..

The olefin is 1-hexane, 1-heptene, 1-octene, 1-nonene, 1-decane, 1-undecane, 1-dodecene, 1-tridecene, **1-tetradecene**, 1-pentadecene, **1-hexadecene**, 1-heptadecene, 1-octadecene, 1-nonadecene or **1-eicosene**, pref. **1-tetradecene** or 1-decene.

USE/ADVANTAGE - Prods. are detergent additives for lubricants. Process does not require a diluent while maintaining a fluid prod..  
Dwg.0/0

L21 ANSWER 3 OF 3 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN

ACCESSION NUMBER: 1993-226681 [28] WPIDS

DOC. NO. CPI: C1993-100959

TITLE: **Alkylation** of hydroxy-benzoate especially salicylate(s) - involves reaction with unsatd. poly **alpha olefin** in presence of stannic chloride, prods. used as ~~diesel lubricant~~ **detergents**.

DERWENT CLASS: A17 A97 E14 H07

INVENTOR(S): BYNUM, P S; SENARATNE, K P A

PATENT ASSIGNEE(S): (ETHY) ETHYL CORP

COUNTRY COUNT: 1

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 5225588	A	19930706	(199328)*		4

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 5225588	A	US 1992-829712	19920203

PRIORITY APPLN. INFO: US 1992-829712 19920203

AN 1993-226681 [28] WPIDS

AB US 5225588 A UPAB: 19931118

**Alkylation** of a hydroxybenzoate comprises reacting a hydroxybenzoate with an unsatd. poly-**alpha-olefin** in the presence of a catalytic amount of SnCl<sub>4</sub> to **alkylate** the phenyl ring of the hydroxybenzoate with the polyalphaolefin.

The reaction is pref. carried out in a halocarbon solvent. The unsatd. polyalphaolefin, which is pref. a decene dimer, is prepared by oligomerising an 8-20C alphaolefin using a Friedel-Crafts catalyst, pref. BF<sub>3</sub> and a promoter. The hydroxy-benzoate is an alkylsalicylate pref. methyl salicylate. The reaction temperature is 20-30 deg.C.

USE/ADVANTAGE - Prods. especially **alkylated** salicylates, are useful as diesel **lubricant detergents**. Process gives good yields and is effective at ambient temps.  
Dwg.0/0